Z-45 REV 12 79

DUPONT
ESTABLISHED 1802

CONFIDENTIAL

CC: D. W. Karrh - N-11400
L. J. Papa - 269
R. W. Ubersax - 353
PRAL File - 353
I.C. - 323

5926C

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED
WILMINGTON, DELAWARE 19898

POLYMER PRODUCTS DEPARTMENT
EXPERIMENTAL STATION

Complainant's Exhibit No. 90

PPD
NOV 4 1982
EXPR. STATION
INFO CENTER

November 1, 1982

PERSONAL AND CONFIDENTIAL

TO: J. D. DE LAURENTIS, M.D. - CR&DD, BUILDING 301

FROM: S. R. LAAS S.R. Laas

ANALYSIS OF BLOOD SAMPLES FOR PERFLUOROOCTANOATE
(Job No. 820-969, PRAL Nos. 82-4096, 4099, 4100, 5166, 5168, 5172, 5176-77, 5262, 5269, 5573-75, 5578)
Notebook Nos. E29297, E29298

The 14 blood samples, previously reported in letters to you dated 10/19/82 and 10/29/82 as having perfluorooctanoate (C8) concentrations greater than the blank, have been analyzed for C8 by the usual gas chromatographic method ES-567. Results and sample identifications are given in the attached table.

The samples are all very low; indeed 3 of the samples are indistinguishable from the blank and 5 are below the quantitation limit. The estimated uncertainty for these analyses is higher than usual due to the very low levels of C8 and the difficulty in integrating the small C8 peak which elutes between the O5 and O6 peaks.

If you have any questions regarding these analyses, don't hesitate to call me.

Key Words

Perfluorooctanoate
GC
Blood Analysis

SRL:kab
Attach.

JRW000010

USEPA 10530

There's a world of things we're doing something about

CONFIDENTIAL

TABLE I

CONCENTRATION OF PERFLUOROOCTANOATE IN BLOOD (a)

| Sample PRAL No. | Date Received | Name | GC Analysis Date Analyzed | [C8], µg F/g blood (b) |
|---|---|---|---|---|
| 82-4096 | 7/21/82 | | 10/25/82 | 0.009 |
| 82-4099 | 7/21/82 | | 10/25/82 | n.d. |
| 82-4100 | 7/21/82 | | 10/25/82 | <0.007 |
| 82-5166 | 9/17/82 | | 10/22/82 | <0.007 |
| 82-5168 | 9/17/82 | | 10/22/82 | 0.010 |
| 82-5172 | 9/17/82 | | 10/22/82 | 0.007 |
| 82-5176 | 9/17/82 | | 10/22/82 | <0.007 |
| 82-5177 | 9/17/82 | | 10/25/82 | 0.007 |
| 82-5262 | 9/24/82 | | 10/25/82 | <0.007 |
| 82-5269 | 9/24/82 | | 10/25/82 | 0.009 |
| 82-5573 | 10/8/82 | | 10/26/82 | 0.007 |
| 82-5574 | 10/8/82 | | 10/26/82 | <0.007 |
| 82-5575 | 10/8/82 | | 10/26/82 | n.d. |
| 82-5578 | 10/8/82 | | 10/26/82 | n.d. |

(a) Analysis as described in Lab Method ES-567 ("Determination of Perfluorooctanoic Acid in Blood, Gas Chromatographic Method", S. Stafford, 4/3/81), using the packed column GC analysis with perfluoro-n-octanoic acid as calibration standard.

(b) Although the analysis is specifically for perfluorooctanoate (acid or salts), concentrations are given in ppm fluorine for comparison with the results of total organic fluorine analyses. (ppm F = 0.688 x ppm perfluorooctanoic acid). Estimated uncertainty is ± 20% relative standard deviation. The lower limit for quantitation is 0.007 µg F/g. The detection limit is ~0.004 µg F/g, but concentrations in that range cannot be well quantitated and are reported as <0.007. None detected (n.d) is reported for samples with [C8] $\lesssim$0.004 ppm. which cannot be distinguished from reagent background.

JRW000011